(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 9 September 2005 (09.09.2005)

PCT

US

(10) International Publication Number $WO\ 2005/081630\ A2$

(51) International Patent Classification: Not classified

(21) International Application Number:

PCT/IL2005/000219

(22) International Filing Date: 23 February 2005 (23.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/548,278 1 March 2004 (01.03.2004)

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

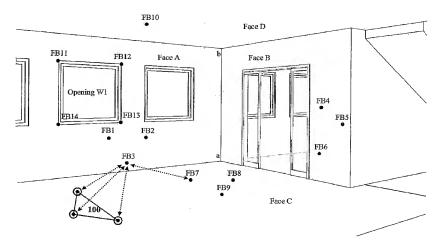
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A SYSTEM A METHOD AND AN APPARATUS FOR PERFORMING WIRELESS MEASUREMENTS, POSITIONING AND SURFACE MAPPING BY MEANS OF A PORTABLE COORDINATE SYSTEM



(57) Abstract: The present invention is a new multifunctional low-cost solution for performing measurements and positioning in construction sites and automatically extracting a three-dimensional virtual model, plans, elevations and sections drawings based on these measurements. The preferred embodiment of the present invention consists of a field beacon or a set of field beacons, spread around the measured area, communicating by omnidirectional signals with at least one central signal collector, which communicates with a computer. Dedicated computer software performs the spatial calculations and other applicable functions. The disclosed system is used for laying out axes and columns at the beginning stage of construction while ensuring the exact match of each mark to its planned position, and for quality and exactitude control of constructions or assembling. In addition the system may be used for locating and tracking objects in a predefined area and automatic directing of machinery to target points.

